

REMARKS:

The Examiner has objected to the claims for including reference numerals in parentheses. He has correctly remarked that such reference numerals, under U.S. practice, are not a part of the claim limitation. The present application was filed out of an International Application. It is international practice to include reference numerals in claim language. The U.S. Patent and Trademark Office, in its efforts for international harmonization, as issued many patents with such reference numerals in the claim language. In order to eliminate any confusion before the Examiner and to minimize issues, the references numerals are being deleted from each of the claims.

The Examiner has further objected to the word "which" in claim 1. Claim 1 recites in part:

"...each measuring electrode of the measuring surface is connected to an equivalent resistance circuit ... which equivalent resistance circuit is in thermal contact ..." [for clarity the reference numerals have been deleted]

Claim 1 has been amended to replace "which" with -- wherein the --. However, the Examiner should note that the Commissioner has not authorized the examiners to redraft an applicant's claim language to their personal preferences.

The language of a specification paragraph or the language of a claim must be recited merely with such particularity to enable one skilled in the pertinent art to understand the invention. An examiner is not directed to require an applicant to secure grammatical perfection to the examiner's standards. See 37 CFR §1.71 and MPEP §608.01(g). Claim recitation can be in the style of the applicant as long as it is clear to one of ordinary skill.

Claims 1-2 and 4-20 stand rejected under 35 USC §112, second paragraph, as being indefinite. At issue primarily is the language of independent claims 1, 14, and 15. These claims 1, 14, and 15 are being amended herein to overcome this rejection.

However, the Examiner is reminded that:

A claim is indefinite only when it contains words or phrases whose meaning is unclear. With respect to antecedence, a lack of clarity arises where it is unclear as to what element the limitation is making reference. M.P.E.P. 2173.05(e). However, the level of clarity is to be judged at the level of one of ordinary skill in the relevant art.

A "rote" recitation of previous language is not necessary, and the absence thereof does not render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. See Energizer Holdings, Inc. v. Int'l Trade Comm'n, 435 F.3d 1366, 77 USPQ2d 1625 (Fed. Cir. 2006); and Ex parte Porter, 25 USPQ 1144 (Bd. Pat. App. & Inter, 1992).

Moreover, the recitation of an element satisfies the antecedent requirement for the recitation of a component of that element - - "inherent" components of elements previously recited have antecedent basis in the recitation of the components themselves. Bose Corp. v. JBL, Inc., 274 F.3d 1354, 61 USPQ 2d 1216 (Fed Cir. 2001); M.P.E.P. 2173.05(e).

The following dependent claims are rejected under §112 for "lack of antecedent basis": claims 2, 6, 8, 9, 10, 11, and 16. Claims 10, 11, and 16 are being amended to overcome this rejection. Antecedence for claims 2 and 3 resides in claim 1. Antecedence for claim 8 resides in claims 6 and 7. Antecedence for claim 9 resides in claim 7. However, claim 9 is being amended to overcome the "consists of one or more, preferably" rejection. This language is being deleted.

The rejection under §112 of claim 16 for "the centers of the measuring electrodes" is respectfully traversed. An electrode inherently (implicitly) has a "center" portion or "center spot" which is the center of the physical electrode's structure. This language is implicitly clear to one of ordinary skill.

Amendments to claims 1, 14 and 15 find support in originally filed claims 1 and 3 and the specification, particularly at paragraphs [0017] through [0020] of the published application.

Claims 1-2, 4-5, 7 and 13 stand rejected under 35 USC 103(a) as obvious in view of Nessler ("Testing Device for Surgical Grounding Plates) when read with Pethig ("Dielectric Properties of Biological Materials: Biophysical and Medical Applications"). Claim 1 is being amended to clearly overcome this rejection. Claims 2, 4-5, 7 and 13 depend from claim 1.

To establish a prima facie case of obviousness the following three basic criteria must be met: 1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the specific reference(s) teachings; 2) there must be a reasonable expectation of success in combining the specific reference(s) teachings; and 3) the prior reference (or references when combined) must teach or suggest all of the claim limitations. See MPEP 706.02. The teachings or suggestion to combine and the reasonable expectation of success must both be found in the prior art and not based upon the applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed Cir 1991); also see MPEP 2143 - 2143.03 for additional decisions pertinent to each of the criteria. The initial burden is on the Examiner to provide support for a prima facie case. Ex parte Clapp, 277 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

When considering obviousness, an examiner should consider the properties and utilities of the structurally similar prior art species of subgenus. It is the properties and utilities that provide, in the real world, the motivation to one of ordinary skilled in the art to make a species combination structurally similar to those in the prior art. In re Dillon, 919 F.2d at 697, 16 USPQ2d 1897, 1905 (CAFC 1990); In re Stemniski, 444 F.2d 581, 586, 170 USPQ 343, 348 (CCPA 1971).

Conversely, the lack of any known useful properties weighs against a finding of motivation to make or select a combination species or subgenus. In re Albrecht, 514 F.2d 1389, 1392, 1395-96, 185 USPQ 585, 587, 590 (CCPA 1975)

Consideration has to be given to the predictability of the technology. In re Grabiak, 769 F.2d 729, 732-33, 226 USPQ 870, 872 (CAFC 1985). If the technology is unpredictable, it is less likely that a combination would be rendered obvious to one of ordinary skill. In re May, 574 F.2d 1082, 1094, 197 USPQ 601, 611 (CCPA 1978).

An examiner should state express fact-findings and determine whether the facts support a prima facie case of obviousness. In doing so, an examiner should specifically articulate what express teachings or suggestions appear in the prior art to have motivated one of ordinary skill to make the combination considered by the examiner. In re Kulling, 897 F.2d 1149, 14 USPQ2d 1058, Panduit Corp v. Dennison Mfg. Co., 810 F.2d 1561, 1579 n. 42, 1 USPQ2d 1593, 1601 n.42 (CAFC 1987).

Applicant is of the opinion that the subject-matter of amended claim 1 is novel and not obvious as it involves an inventive step compared to the cited references Nessler et al ("Testing Device for Surgical Grounding Plates") and Pethig ("Dielectric Properties of Biological Materials: Biophysical and Medical Applications") which applicant provided to the Patent Office in an Information Disclosure Statement previously filed. In fact, the Nessler reference was authored by the applicant-inventor of the present invention who believes the present improvement invention is not obvious to one of ordinary skill in the art.

It appears that the Examiner has refused to accept applicant's previously filed arguments for the claims as now examined, that those claims distinguished the present invention over the cited art.

It seems as if the Examiner does not accept or can't accept the previously filed argument for patentability in view of the cited prior art as the limitations previously argued did not seem to be not present in the claims.

Nessler et al discloses a testing device of surgical grounding plates comprising some of the features of amended claim 1. The device comprises test boards for simulating human skin comprising measuring resistances simulating the specific skin impedance. With this device, thermal characteristics of surgical neutral electrodes may be measured.

In contradiction to the now presented claims, Nessler et al fails to disclose various ones of the recited limitations of amended claim 1, particularly that at least one resistance of the equivalent resistance circuit is formed by a reactive resistance representing the hypodermis including fatty tissue for varying the thickness of the hypodermis including fatty tissue, without an increase in temperature.

With these features of the present invention, it is possible to adjust the effective resistance of the hypodermis to simulate different kinds of hypodermis, especially different thicknesses and thus levels of percentage of fat. Therefore, also a high percentage of fat may be simulated without reaching a too high temperature in the hypodermis part, which would be the case when using only resistances.

The objective technical problem to be solved is therefore to provide a measuring system in which the effective resistance of the hypodermis may be dimensioned also for a high percentage of fat without an increase of temperature. This is solved by the device of amended claim 1 of the present application, comprising features which address the technical problem.

The cited reference, Nessler et al does not give any hint for using a reactive resistance representing the hypodermis.

From Pethig, it is known to use a capacitor for representing a part (stratum corneum) of the epidermis and for simulating the dielectric properties of a skin layer. However, Pethig does not disclose that the capacitor may be used for the hypodermis or give any hint that the capacitor may be used for simulating different kinds of hypodermis, especially thicknesses and

thus also a high percentage of fat, without reaching a too high temperature in the hypodermis part.

With Pethig, an increase of temperature based on the high percentage of fat only appears in the hypodermis as the volume of the hypodermis is big compared to the volume of corium and epidermis. Thus, the loss energy creates for a current flow through the hypodermis causing a high temperature (a temperature rise), whereas an increase of temperature in the corium may be neglected.

The goal of the system disclosed in Pethig is to provide a reproduction of the electric network of the skin without considering the spatial extent of the single components. The different spatial extent of single components causes different cooling effects by thermal conduction and blood flow. Pethig does not refer at all to different thermal generation in different skin layers affected by artificially introduced currents.

The issue addressed by present invention is not to reproduce the resistance network of the skin layers as exact as possible, but to reproduce the effects of local increase in temperature as exact as possible when currents are artificially introduced. This distinctly departs from the cited prior art either read individually or in combination.

For this purpose in the present invention, a reactive resistance has to be dimensioned in a way that, when considering the spatial extent and the corresponding cooling effects, the increase in temperature caused by the artificially introduced current is correctly reproduced. Therefore, the reactive resistance used in the present invention does not correspond to the purpose or the concept of the capacitance used in Pethig.

The present invention further addresses different spatial extents of the skin with the same network, without changing the values of the resistances, but simulating different spatial extents of the skin the introduced current in its frequency. Applicant's reactive resistance may

be used as a frequency independent, loss-free resistance, wherein this purpose is not disclosed or suggested by either of the cited references.

Therefore, a person skilled in the art would not combine Nessler et al and Pethig, as Pethig does not provide a solution for the objective technical problem. Pethig only discloses that dielectric properties of skins may be simulated by a circuit comprising a parallel capacitor/resistor combination for the stratum corneum.

Even when combining Nessler et al and Pethig, a person skilled in the art would not arise at the claimed invention. In combining the cited references, the resulting system would be a circuit comprising a capacitor for the simulation of the epidermis. However, this system would not solve the above objective technical problem. Therefore, any combination of the cited prior art would not lead to the claimed invention.

It is request that the application be reexamined as to the amended claims 1-2, 4-20 and passed to issue with these claims.

No additional fees are believed to be required. In the event that an additional fee is required with respect to this communication, the Commissioner is hereby authorized to charge any additional fees, or credit any overpayment, to Paul & Paul Deposit Account No. 16-0750. (order no. 8075)

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